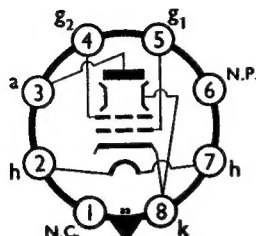




# **BEAM PENTODE** **6.3V INDIRECTLY HEATED**

**KT66**  
**JUNE, 1956**

## **BASE CONNECTIONS AND VALVE DIMENSIONS**



View from underside  
of base.

Base : International Octal.  
Bulb : Dome top tubular.

Overall length : 125—135 mm.  
Seated length : 111—121 mm.  
Max. diameter : 53 mm.

## **RATING**

### **Pentode Connection**

$V_h$	6.3	V
$I_h$	1.27	A
$V_a$	500	V
$V_{g2}$	400	V
$P_a$	25 max.	W
$P_{g2}$	3.5 max.	W
$r_a$	22.5	k $\Omega$
$g_m$	6.3	mA/V

at  $V_a = V_{g2} = 250$ ,  $V_{g1} = -15$

### **Triode Connection**

$V_a$	400	250	V
$P_a$	28.5	28.5	W
$r_a$	1.45	1.3	k $\Omega$
$g_m$	5.5	6.15	mA/V

at  $V_{g1} = -38$       at  $V_{g1} = -19$

## **CAPACITANCES** (of unscreened valve)

$c_{g1-all}$	16	pF	$c_{a-all}$	11.5	pF	$c_{a-g1}$	1.1	pF
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## **TYPICAL OPERATION**

### **Single Valve. Class A. Triode Connection**

$V_a, g_2$	250	400	V
$V_{g1}$ (approx)	-19	-38	V
$I_a, g_2$	60	63	mA
$v_{in}$ (pk)	19	38	V
$P_a, g_2$ (o)	15	25	W
$R_k$	315	600	$\Omega$
$R_L$	2.75	4.5	k $\Omega$
$P_{out}$	2.2	5.8	W
D	6	7	%

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## Push-Pull. Class AB<sub>1</sub>. Triode Connection (Two Valves)

Data per pair unless otherwise stated

V <sub>a</sub> , g <sub>2</sub>	250	400	V
V <sub>g1</sub>	−20	−38 approx.	V
I <sub>a</sub> , g <sub>2</sub>	110	125	mA
v <sub>in</sub> (pk) (g <sub>1</sub> -g <sub>1</sub> )	40	80	V
R <sub>k</sub> (per valve)	360	600	Ω
R <sub>L</sub> (a-a)	2.5	4	kΩ
P <sub>out</sub>	4.5	14.5	W
D	2	3.5	%

## Single Valve. Class A. Pentode Connection

V <sub>a</sub>	250	V
V <sub>g2</sub>	250	V
V <sub>g1</sub>	−15 approx.	V
I <sub>a</sub>	85	mA
I <sub>g2</sub>	6.3	mA
v <sub>in</sub> (pk)	15	V
p <sub>a</sub> (o)	21.5	W
R <sub>k</sub>	160	Ω
R <sub>L</sub>	2.2	kΩ
P <sub>out</sub>	7.25	W
D	9	%

## Push-Pull. Class AB<sub>1</sub>. Pentode Connection (Two Valves)

Data per pair unless otherwise stated.

	No signal	Max. signal	
V <sub>a</sub>	250	250	V
V <sub>g2</sub>	250	250	V
V <sub>g1</sub>	−17.5 approx.	—	V
I <sub>a</sub>	162	165	mA
I <sub>g2</sub>	12	20	mA
v <sub>in</sub> (pk) (g <sub>1</sub> -g <sub>1</sub> )	—	36	V
p <sub>a</sub> (per valve)	20	12	W
p <sub>g2</sub> (per valve)	1.5	2.5	W
R <sub>k</sub> (per valve)	200	200	Ω
R <sub>L</sub> (a-a)	—	4	kΩ
P <sub>out</sub>	—	17	W
D	—	4	%

## Push-Pull. Class AB<sub>1</sub>. Pentode Connection (Two Valves)

Data per pair unless otherwise stated.

	No signal	Max. signal	
V <sub>a</sub> (b), V <sub>g2</sub> (b)	450	425	V
V <sub>a</sub>	415	390	V
V <sub>g2</sub>	300	275	V
I <sub>a</sub>	104	125	mA
I <sub>g2</sub>	5	18	mA
v <sub>in</sub> (pk) (g <sub>1</sub> -g <sub>1</sub> )	—	70	V
p <sub>a</sub> (per valve)	21.5	9.5	W
p <sub>g2</sub> (per valve)	0.75	2.5	W
R <sub>k</sub> (per valve)	500	500	Ω
R <sub>L</sub> (a-a)	—	8	kΩ
P <sub>out</sub>	—	30	W
D	—	6	%
V <sub>a</sub> (rms) (to rectifier)	—	500 + 500	V
R <sub>source</sub> (HT)	—	600	Ω

## Push-Pull. Class AB<sub>1</sub>. Pentode Connection. Fixed Bias (Two Valves)

Data per pair unless otherwise stated.

	No signal	Max. signal	
V <sub>a</sub>	510	475	V
V <sub>g2</sub>	395	360	V
V <sub>g1</sub>	-40 approx.	—	V
I <sub>a</sub>	80	175	mA
I <sub>g2</sub>	3	19	mA
v <sub>in</sub> (pk) (g1-g1)	—	80	V
p <sub>a</sub> (per valve)	21	17	W
p <sub>g2</sub> (per valve)	0.6	3.5	W
R <sub>L</sub> (a-a)	—	5	kΩ
P <sub>out</sub>	—	50	W
D	—	5	%

Screen grids supplied from stabilised source.

## GENERAL

For the prevention of parasitic oscillation a series resistor of 100/300Ω should be connected close to the screen grid terminal of the valve socket. When the valve is triode connected, this resistor should be connected between screen grid and anode. A control grid series resistor of 10/50 kΩ is also recommended. In push-pull applications having a large change in anode current between the quiescent and full output conditions, an inductor input filter circuit of good regulation should be used. A badly regulated supply will cause a fall in power output and/or excessive quiescent anode dissipation.

The use of a common auto-bias resistor is not recommended except in applications where the maximum anode dissipation is not attained under any condition of operation.

The maximum permissible D.C. resistance between control grid and cathode is limited to 0.5 MΩ for auto-bias and 0.1 MΩ for fixed bias applications.

## SCREENING

No internal or external screening is fitted to the valve.

## MOUNTING

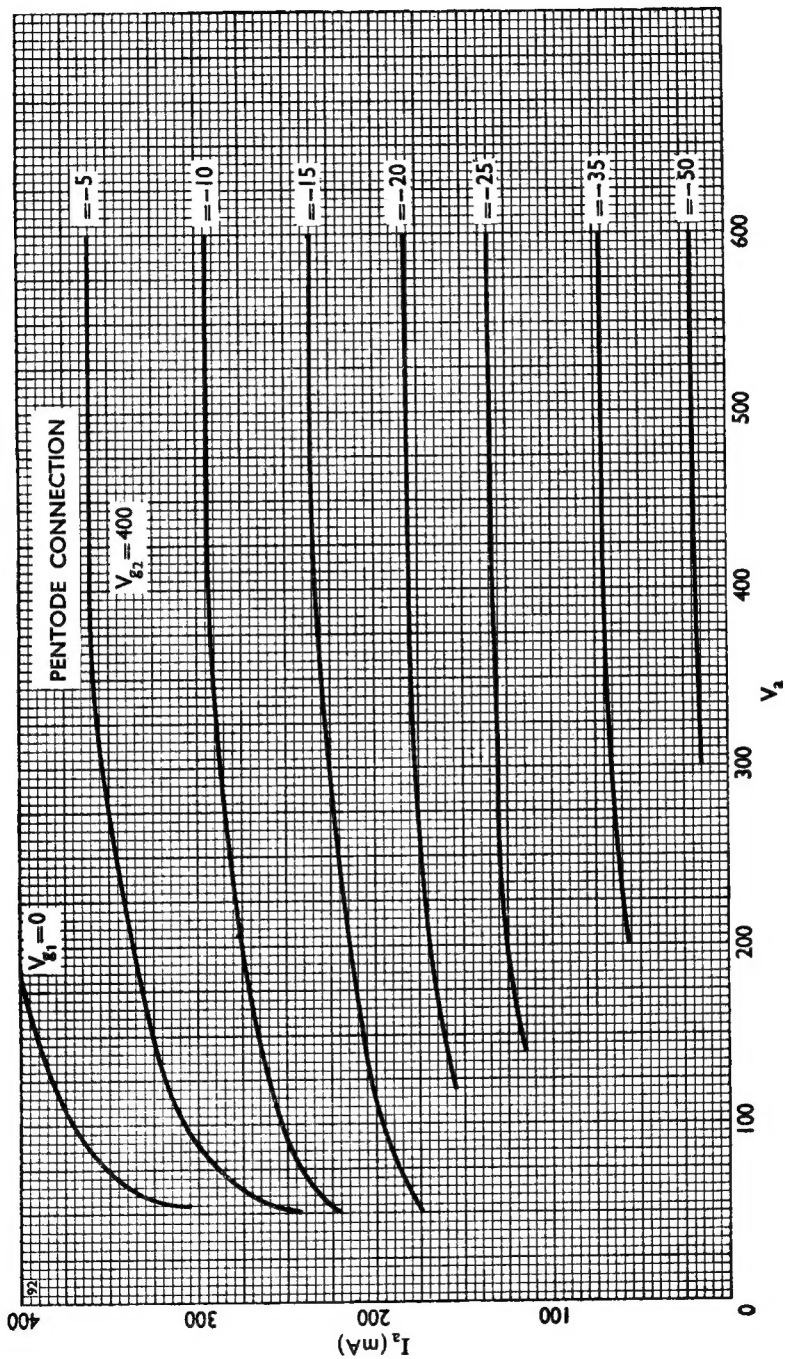
Any position.

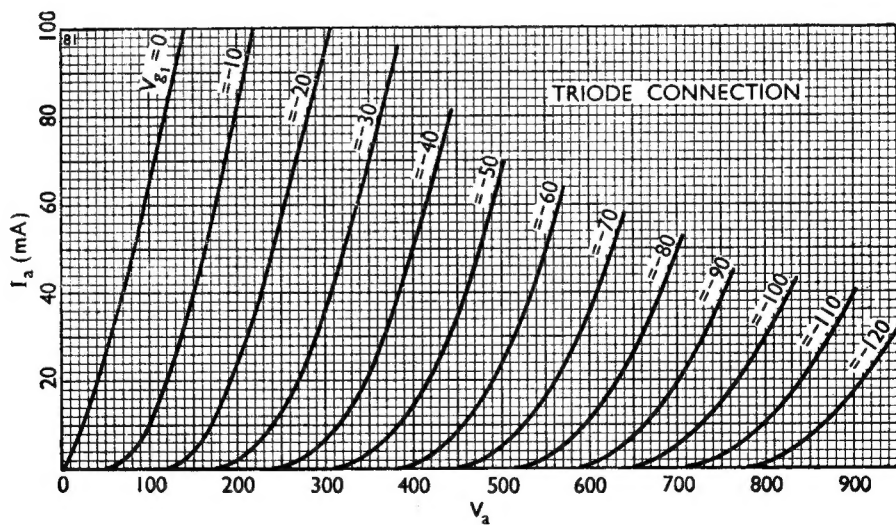
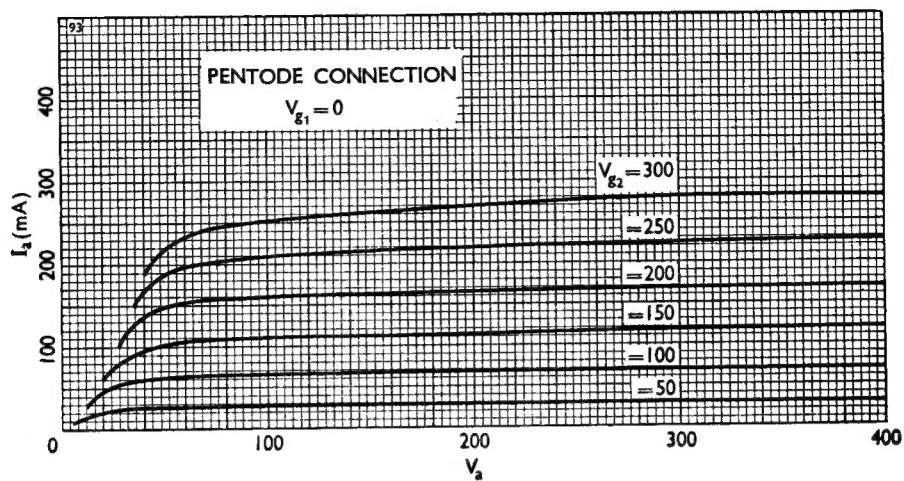
## RETAINING

No retaining device is normally necessary.

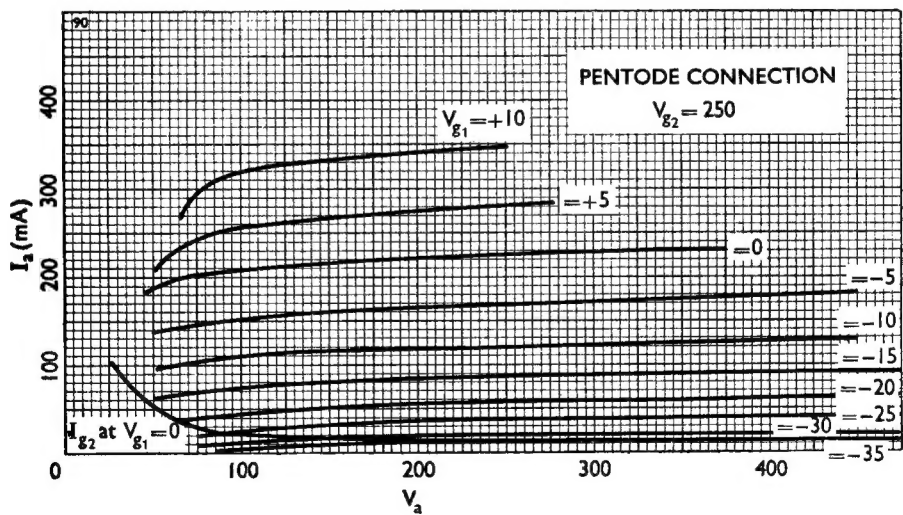
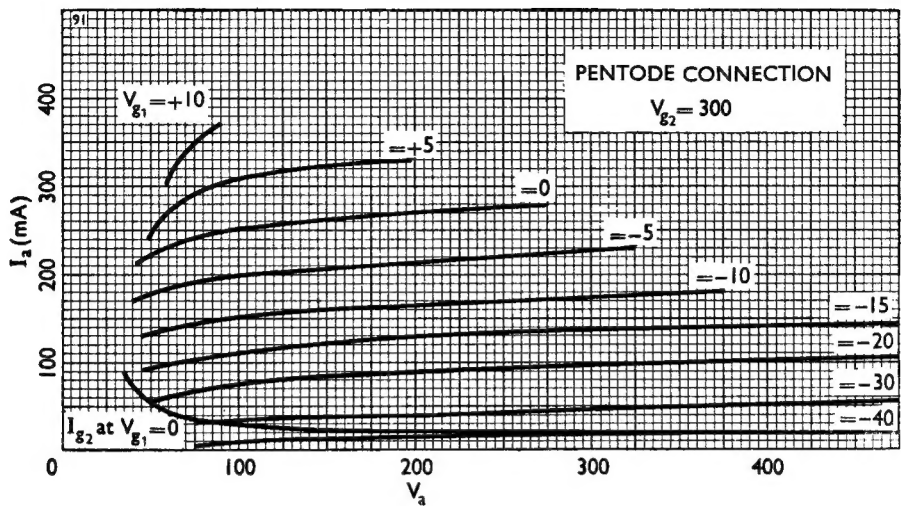
## VENTILATION

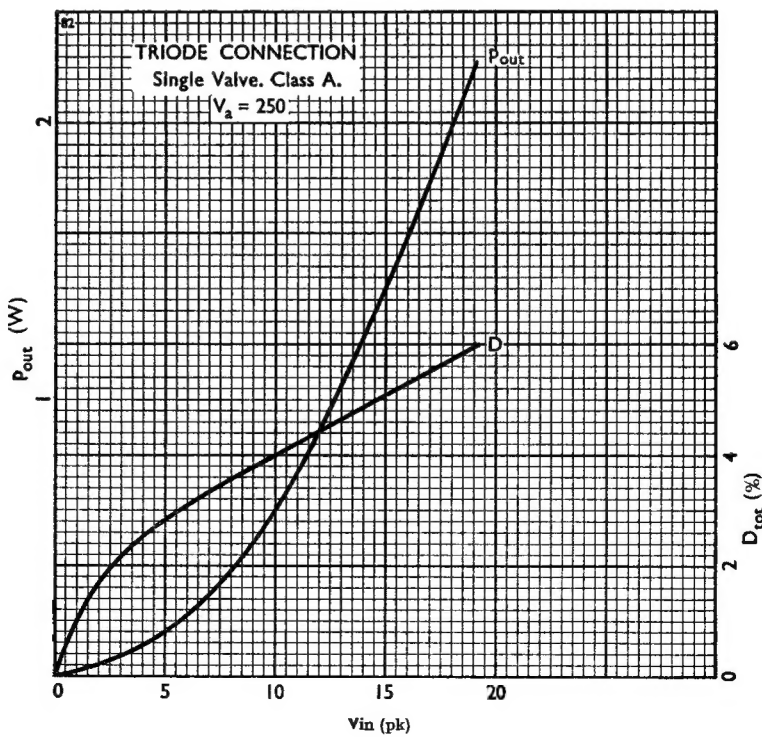
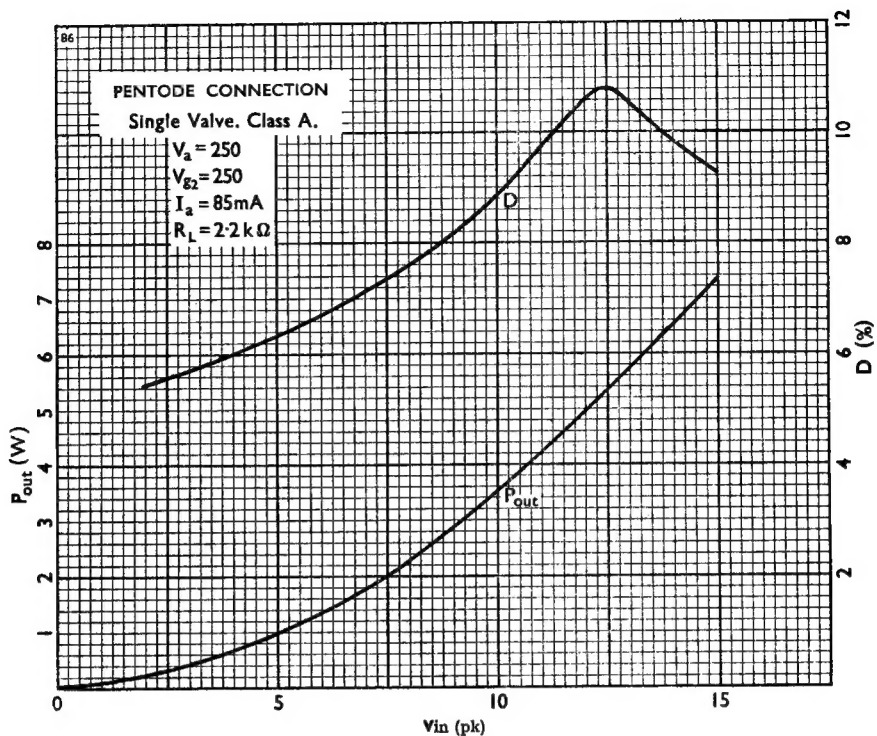
Adequate ventilation around the bulb should be provided.



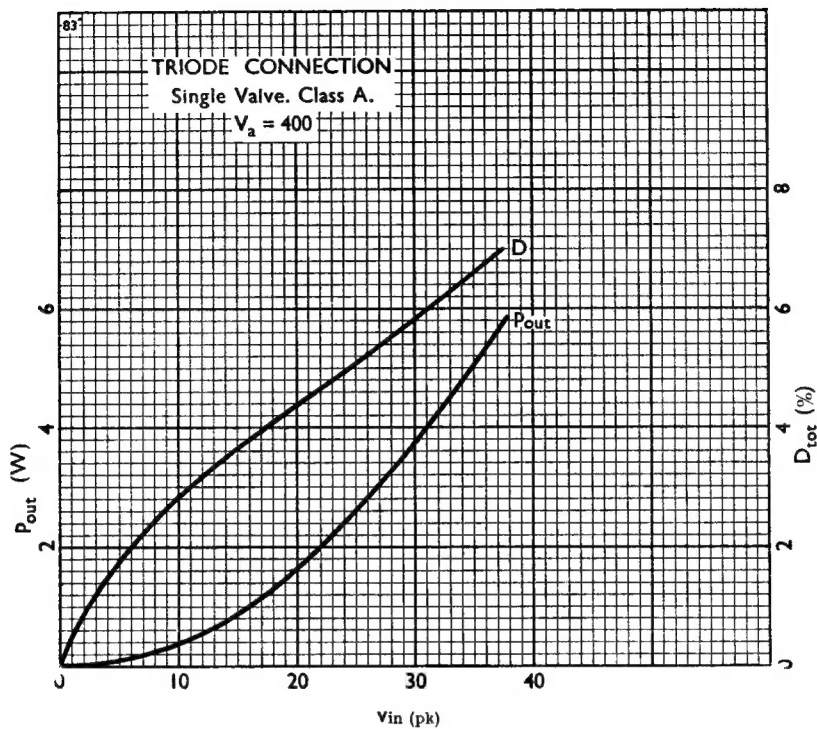


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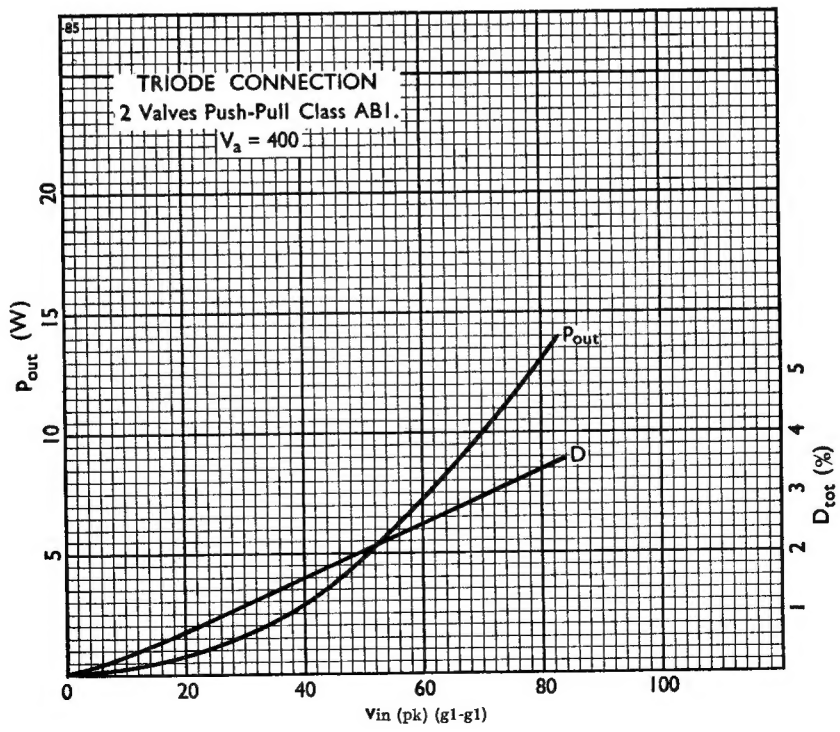
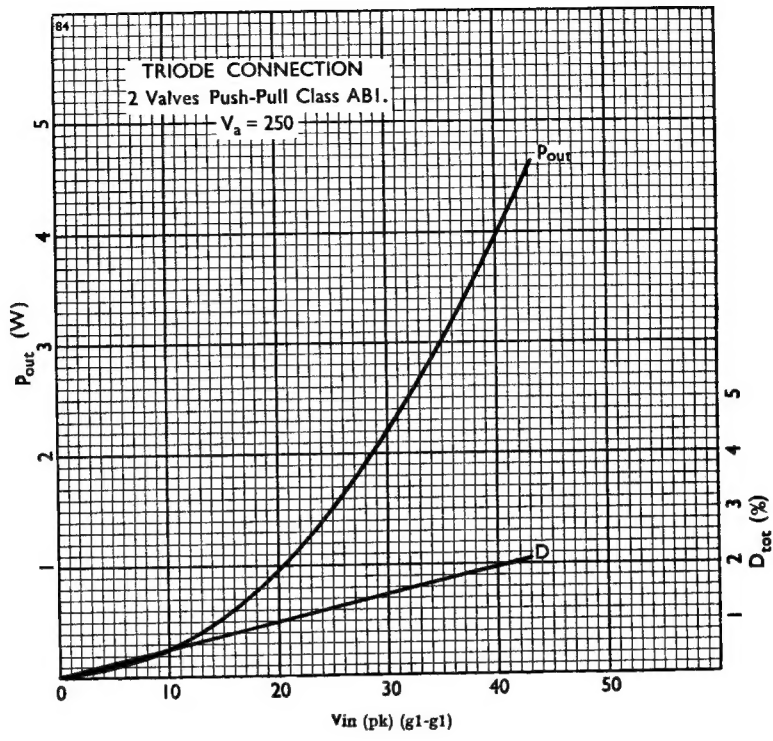




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